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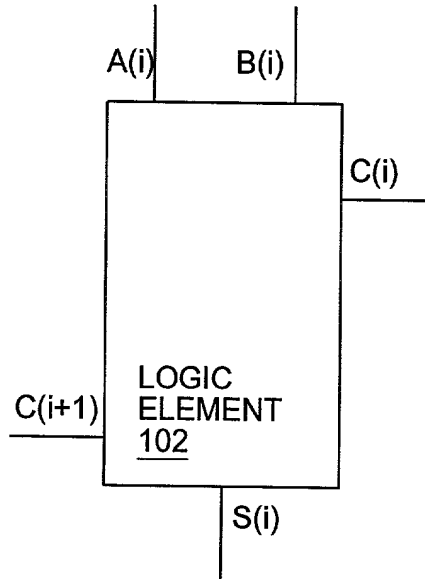


FIG. 1

C(i)	B(i)	A(i)	S(i)	P(i)	PC *	G(i)	K(i)	C(i+1)	C'(i+1)
0	0	0	0	0	0	0	1	0	1
0	0	1	1	1	0	0	0	0	1
0	1	0	1	1	0	0	0	0	1
0	1	1	0	0	0	1	0	1	0
1	0	0	1	0	0	0	1	0	1
1	0	1	0	1	1	0	0	1	0
1	1	0	0	1	1	0	0	1	0
1	1	1	1	0	0	1	0	1	0

$$PC = P(i)C(i-1)$$

$$\begin{aligned} \text{CARRY} &= A'BC + AB'C + ABC' + ABC \\ &= C(A'B + AB') + AB(C' + C) \\ &= C(A'B + AB') + AB \\ &= PC + G \\ \text{where } P &= A \text{ XOR } B \text{ and } G = AB \end{aligned}$$

$$\begin{aligned} \text{CARRY}' &= A'B'C' + AB'C' + A'BC' + A'B'C \\ &= A'B'(C' + C) + C'(AB' + A'B) \\ &= A'B' + C'(AB' + A'B) \\ &= PC' + K \\ \text{where } P &= A \text{ XOR } B \text{ and } K = A'B' \end{aligned}$$

FIG. 2A

FIG. 2B

120

130

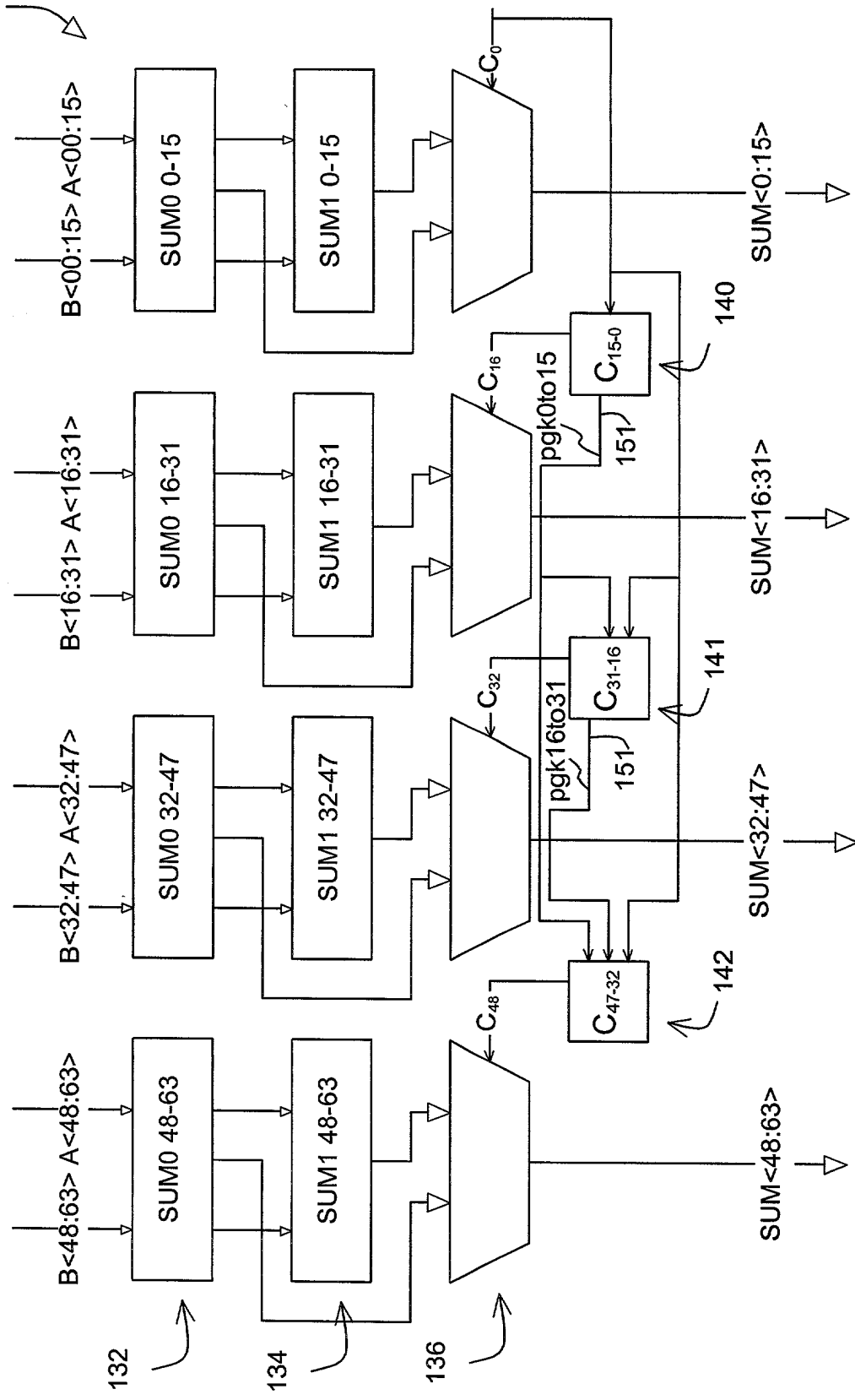


FIG. 3

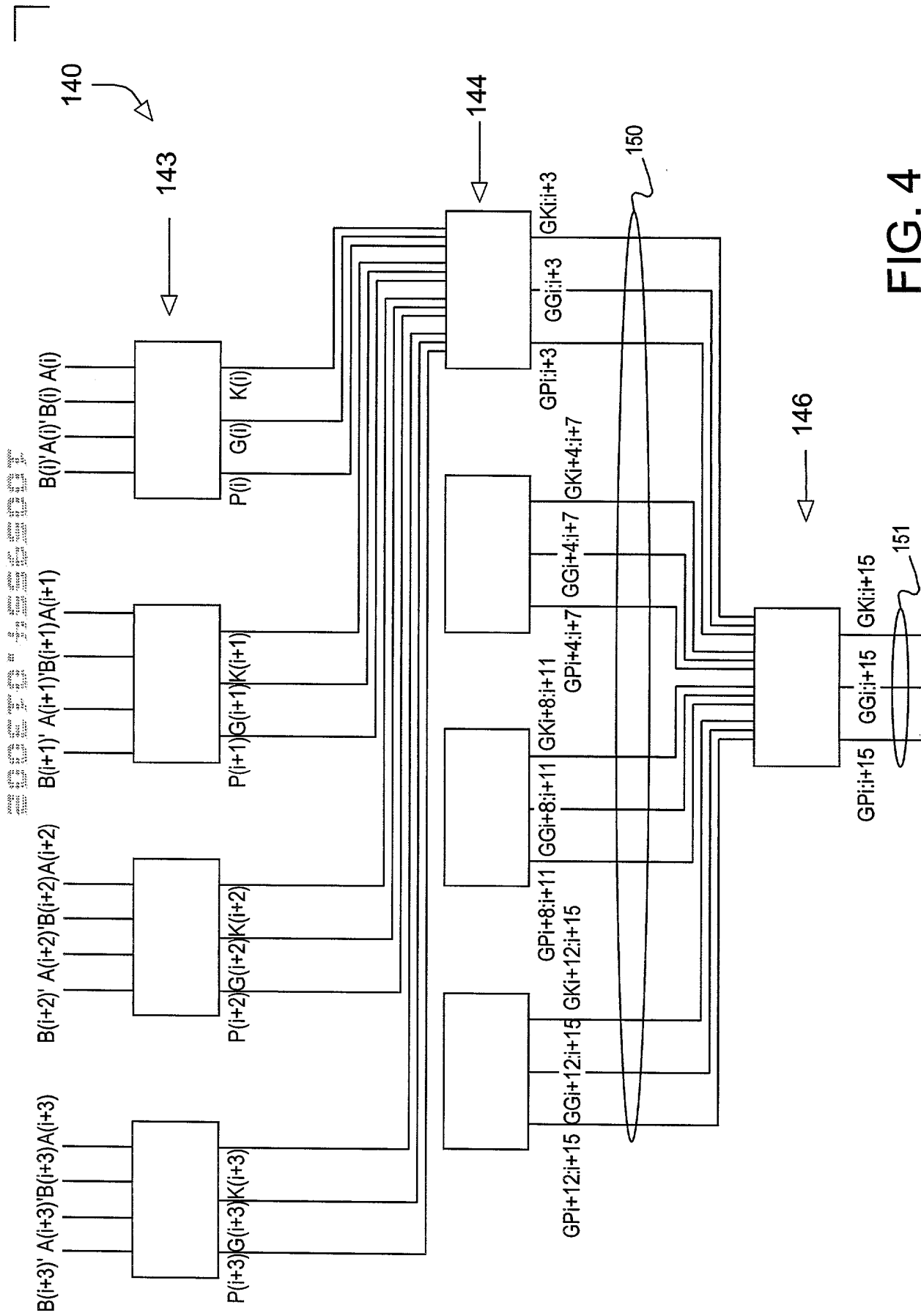


FIG. 4

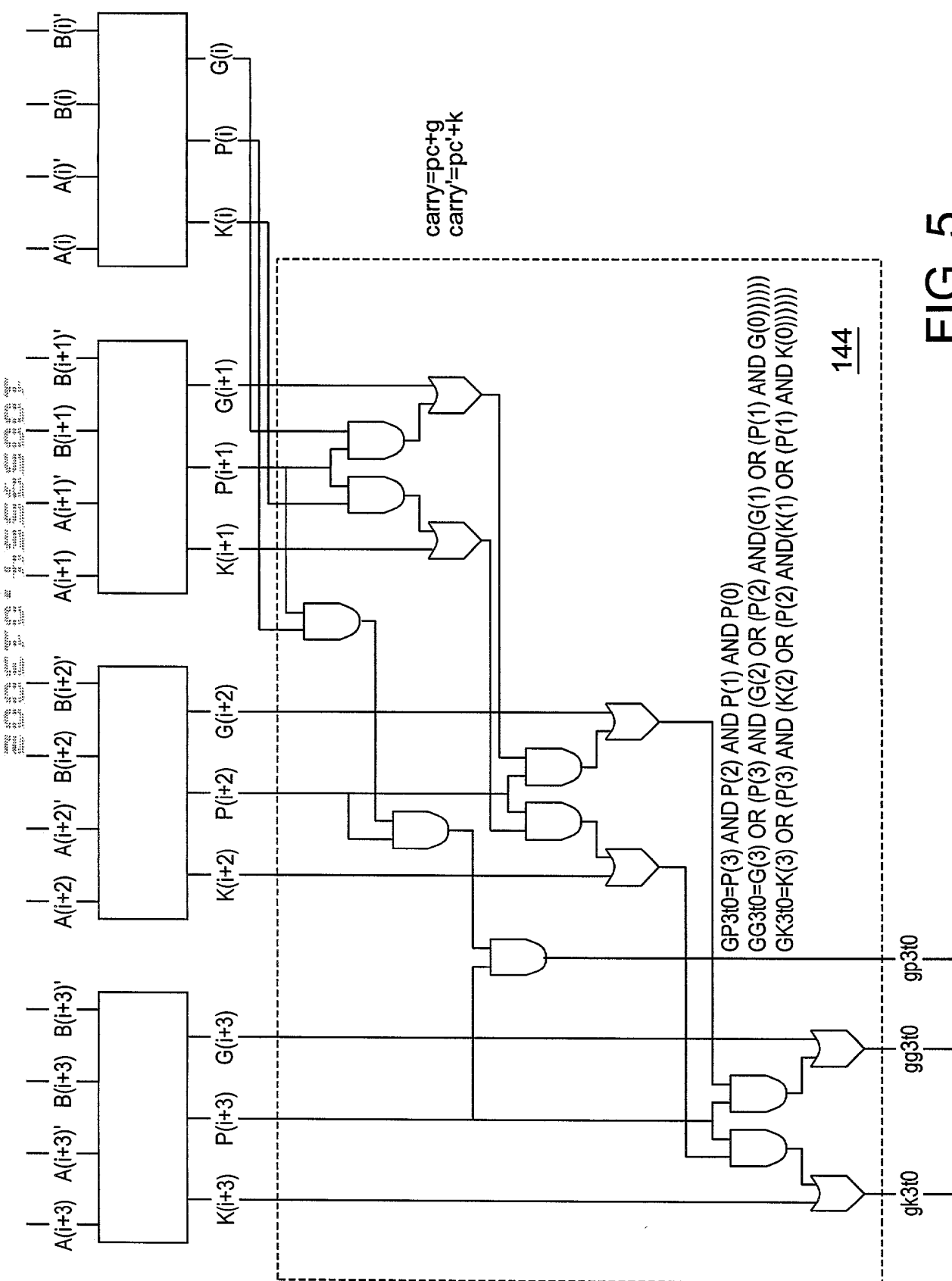


FIG. 5

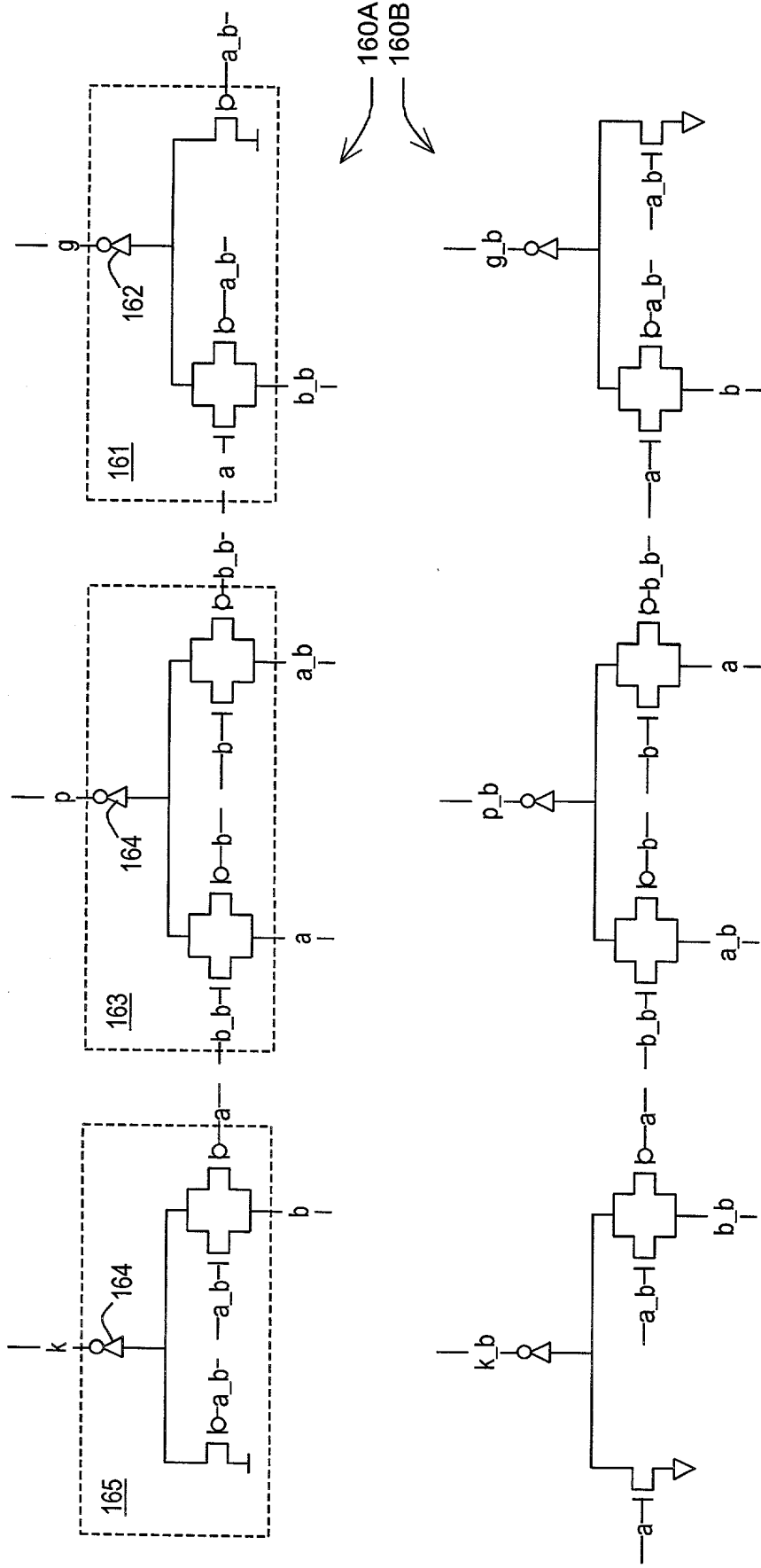


FIG. 6

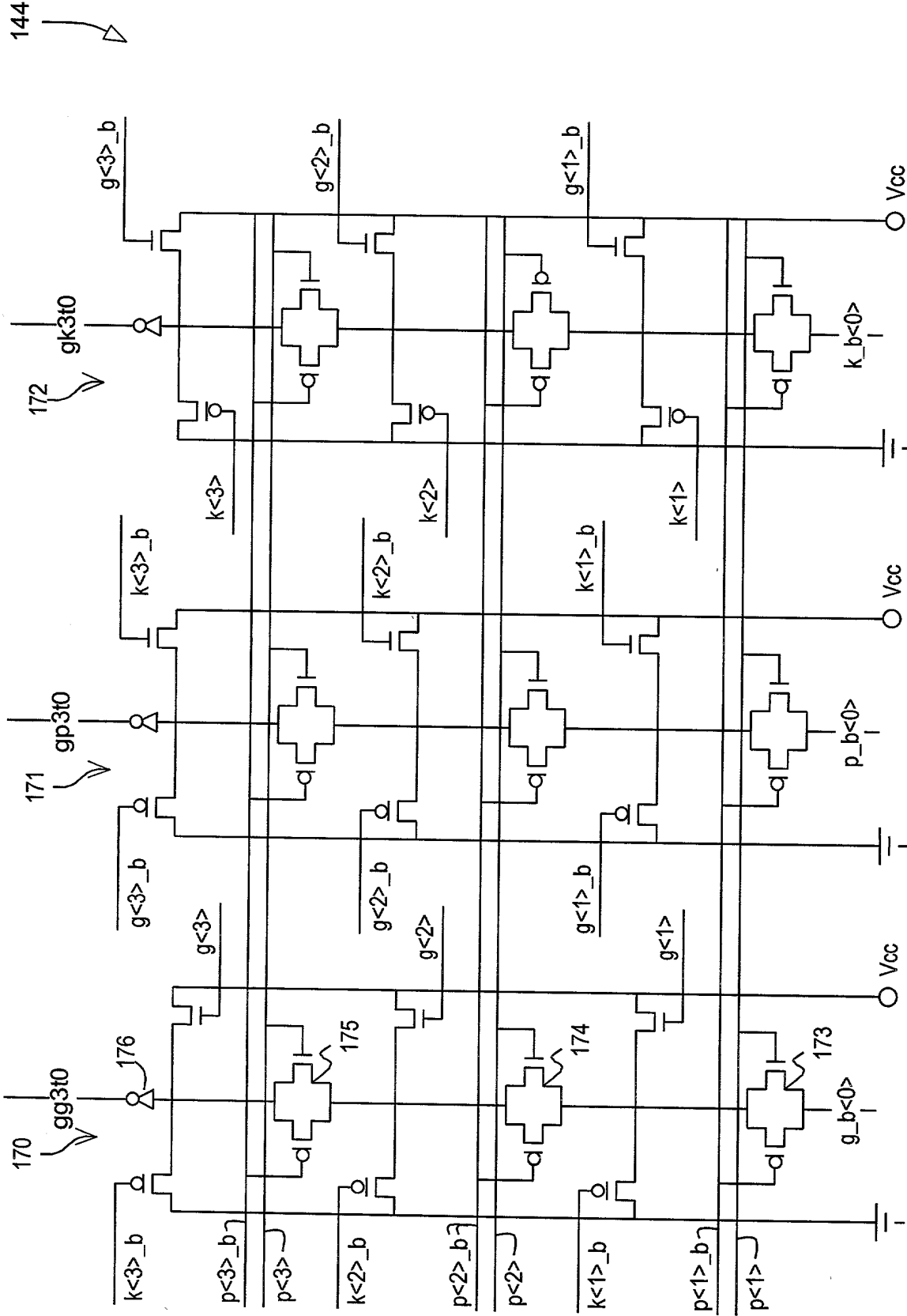


FIG. 7

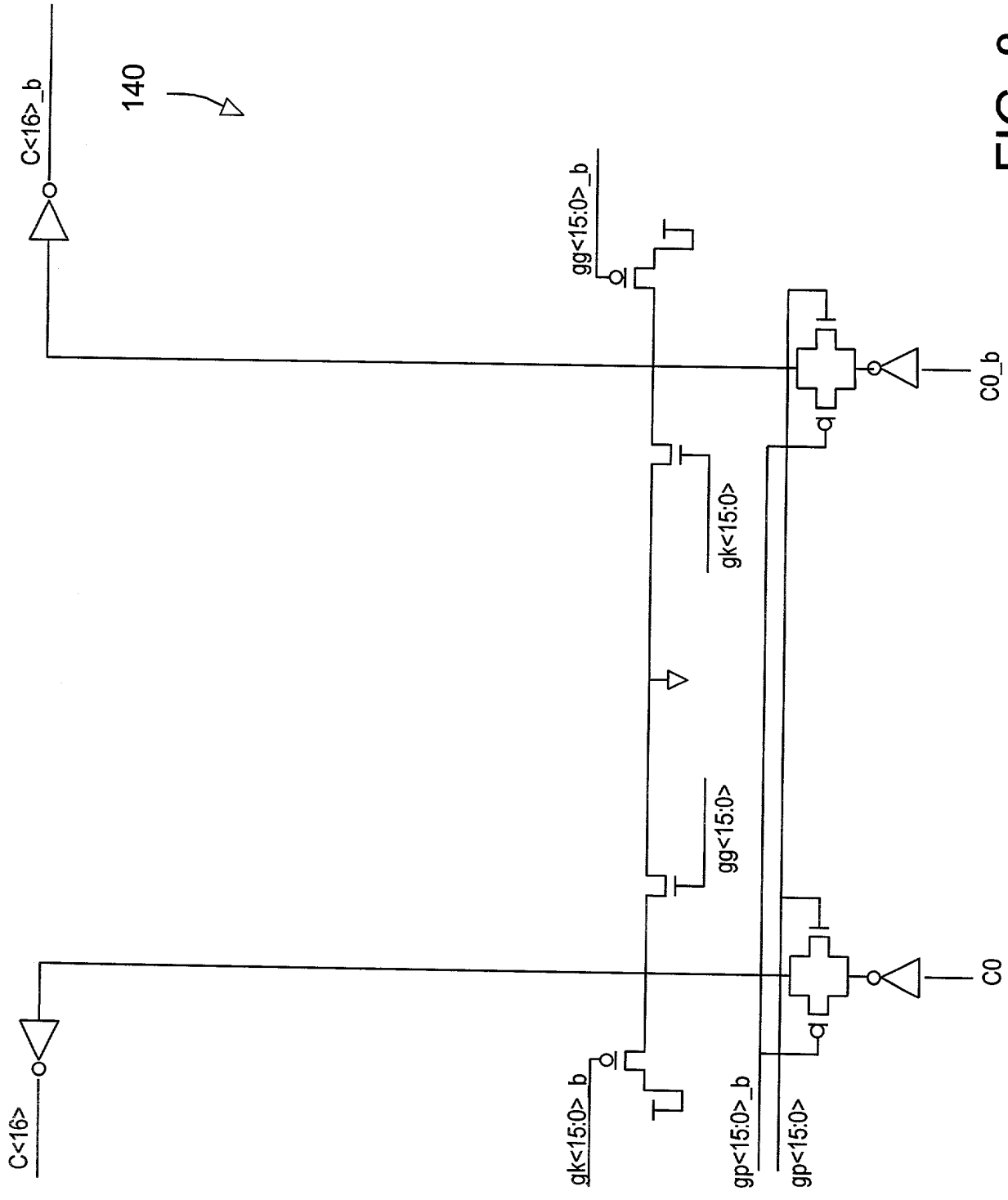


FIG. 8

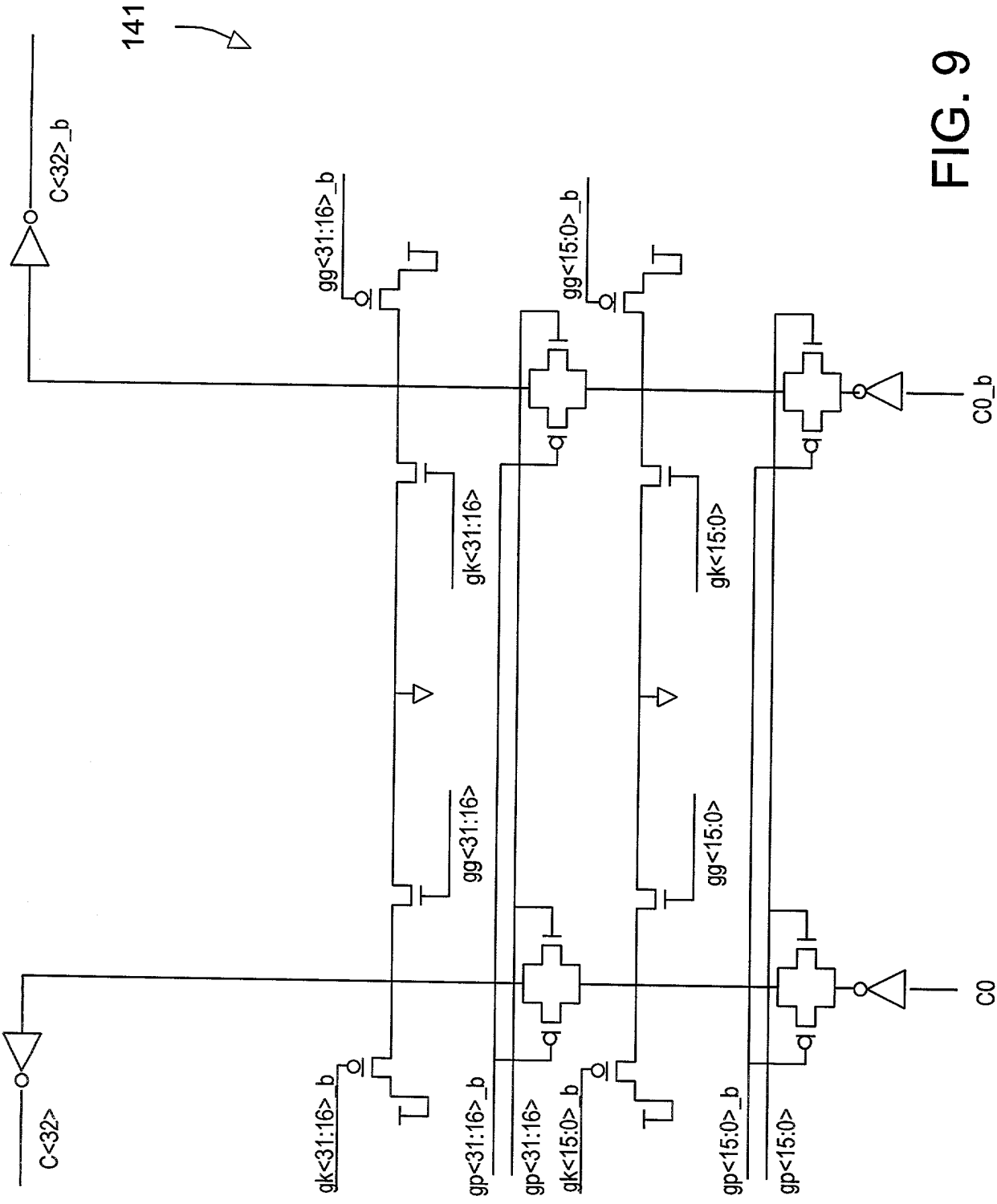


FIG. 9

141

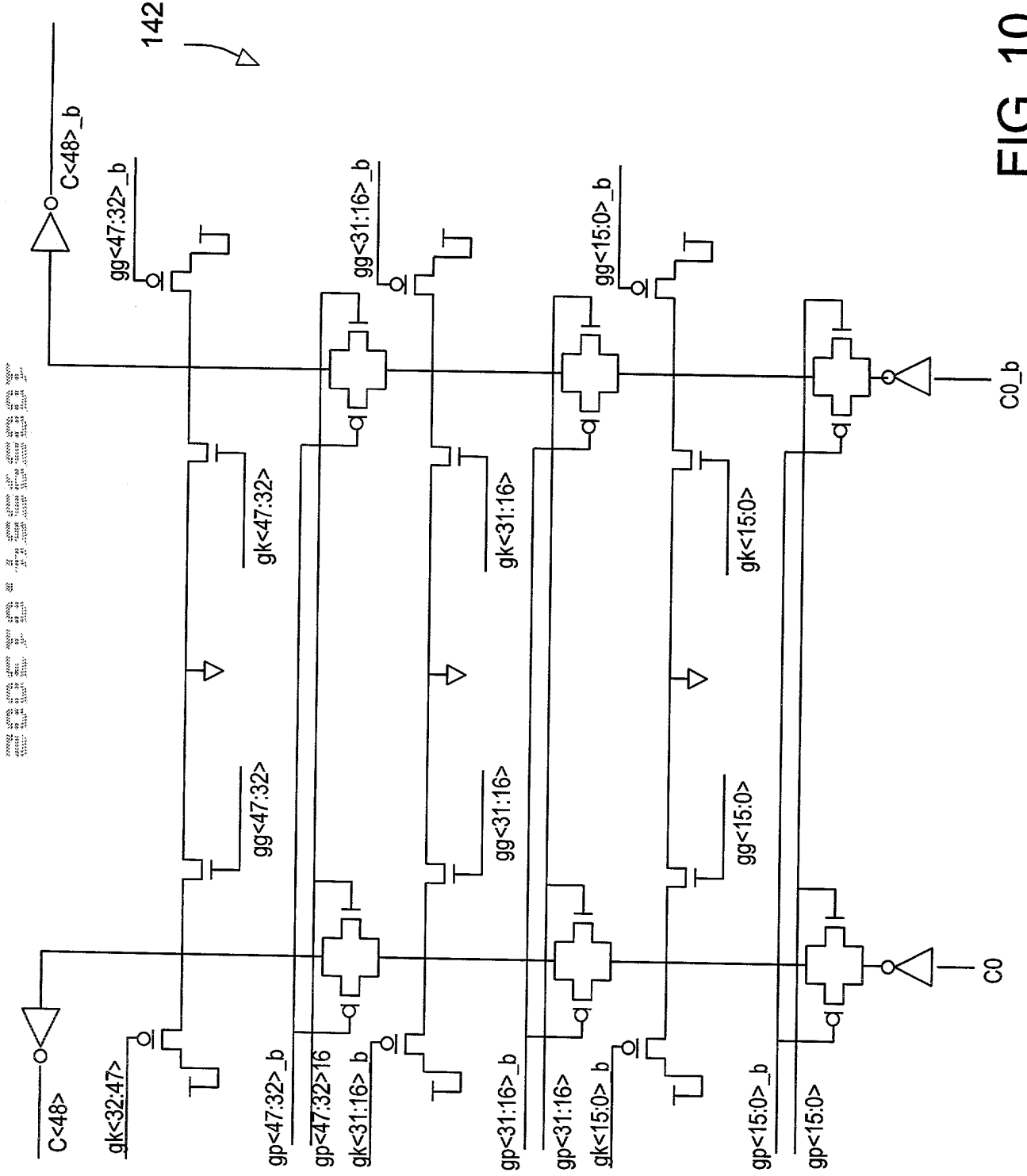


FIG. 10

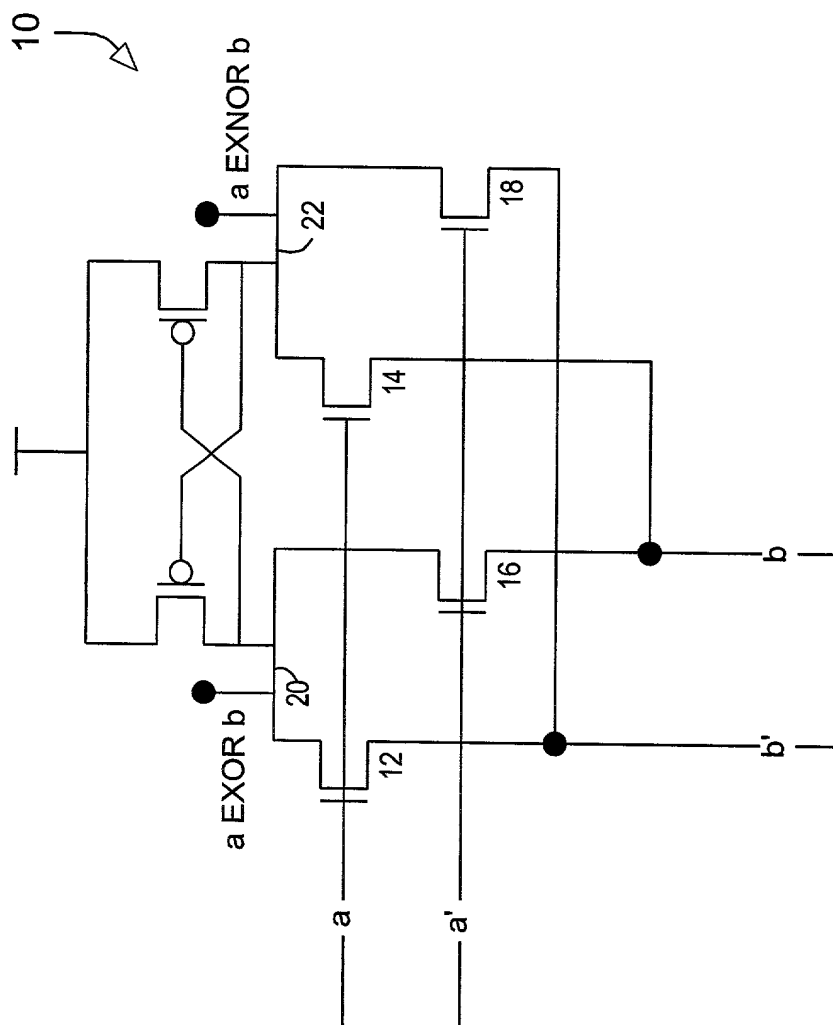


FIG. 11
PRIOR ART